

APPENDIX

Computer Programs and Sample Run

```
VNORM[[]]V
[0] X←NORM N;Z;T;R
[1] A ;;
[2] A 961204.1712
[3] A GENERATE N NORMAL RANDOM VARIABLES, MEAN 0, SIGMA 1
[4] A RNL IS SEED
[5] Z←2,[N÷2
[6] Z←Zρ(÷10000)×?(×/Z)ρ10000
[7] T←(02)×Z[1;]
[8] R←(-2×@Z[2;])*0.5
[9] X←N†,(1 10.×R)×2 10.0T
V 1996-12-10 11.00.01 (GMT-4)
```

```
VDELRES[[]]V
[0] R←Y DELRES X;N;I
[1] A ;;
[2] A 000323.2241
[3] A DELAY RESIDUALS
[4] N←ρX
[5] R←0×Y
[6] R[1N]←Y[1N]
[7] I←0
[8] NEXTI:I←I+1
[9] R[N+I]←Y[N+I]-R[N+I-1N]+.×X
[10] →NEXTI×1I<(ρY)-N
[11] R←N+R
V 2000-03-25 22.51.47 (GMT-4)
```

```
VNLS[[]]V
[0] XE←XD NLS RES;X;ΔX;R;P;J;ΔR;A;B;D;EM;E;I;EE;AA
[1] A ;RES;
[2] A 800225.0914 800820 000321.1532
[3] A NONLINEAR LEAST SQUARES
[4] A CHAR. VECT. RES IS RESIDUAL FUNCTION NAME
[5] X←XD[1;]
[6] ΔX←XD[2;]
[7] EE←''
[8] I←0
[9] NEXTI:I←I+1
[10] R←RES,' X'
[11] A (R A B)←RES,'(X ΔX)'
[12] A EE←EE,(÷/+/ (R*2),[0.5]1)*0.5
[13] A (÷/+/ (R*2),[0.5]1)*0.5
[14] A ANALYTIC RESIDUAL PARTIALS
[15] A P←(RES,'P'),' X'
[16] A →ANPAR
[17] A CALCULATE R, A AND B
[18] A (R A B)←RES,'(X ΔX)'
[19] A →CALCRAB
[20] A NUMERIC RESIDUAL PARTIALS
[21] P←''
[22] J←0
[23] NEXTJ:J←J+1
[24] ΔR←(RES,' X+ΔX[J]×J=1ρX')-R
[25] P←P,ΔR÷ΔX[J]
```

```

[26]  →NEXTJ×1J<ρX
[27]  P←Q((ρX),(ρP)÷ρX)ρP
[28]  ANPAR:A←(QP)+.×P
[29]  B←(QP)+.×R
[30]  CALCRAB:
[31]  D←÷(((0 1+ρA)ρA)[;1]+1E-10)*0.5
[32]  AA←(A×D°.×D)+1E-10×(ρA)ρ1,0×A
[33]  X←X-D×(D×B)⊗AA
[34]  →NEXTI×1I<3
[35]  R←RES, 'X'
[36]  R (R A B)←RES, '(X ΔX)'
[37]  EM←÷/+/R,[0.5]1
[38]  E←(÷/+/((R*2)),[0.5]1)*0.5
[39]  XE←(X,EM),[0.5]E×(((0 1+ρAA)ρ(D°.×D)×⊗AA)[;1],1)*0.5
[40]  R EE,E
[41]  E
[42]  R ' '
[43]  R XE
[44]  R →NEXTI×1I<20
[45]  R RR←R
V 2000-03-29 23.00.55 (GMT-4)

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```

VNLS[□45]
[45]  R RR←R
[45]  RR←R
[46]  V

```

```

ρX5←NORM 100000
100000
□←S←(÷/+/((X5)*2),[.5]1)*.5
1.002357739
ρXX5←X5[3+199997]+.1×X5[(199997)°.+-11+14]+.×1 0 1 0
99997
□←N←(÷/+/((XX5-3+X5)*2),[.5]1)*.5
0.1418755036
20×10⊗S÷N
16.98230664
(2 3ρ0 0 0 .001 .001 .001)NLS 'XX5 DELRES'
1.011856929
1.002412348
1.00237057
1.002370568
0.09896411424 0.001084301862 0.09780701046 0.008745036907
0.003147221067 0.003163105505 0.003146911359 1.002370568
□←N←(÷/+/((RR-6+X5)*2),[.5]1)*.5
0.002841730873
20×10⊗S÷N
50.94879605

```